

JAN 25 1977

REF: 8E-PC

MEMORANDUM

TO: Robert B. Schaffer (WH-552)  
Director, Effluent Guidelines Division

FROM: Director, Enforcement Division

SUBJECT: Onshore Oil and Gas Extraction Guidelines

In the January 13, 1977, meeting with John Cunningham, Effluent Guidelines Division, John Wagner, State of Wyoming Water Quality Division, Bob Burn and Rob Walline of this office, various topics concerning the final onshore oil and gas extraction guidelines were discussed. As a result of that discussion, we would like to request several changes in the interim guidelines.

It is felt that paragraph 435.51, subpart (c), should be expanded as indicated below:

- (c) The term "beneficial use" shall mean that produced water is of good enough quality to be used for wildlife propagation, livestock watering, or other agricultural uses and is being put to such use.

The standards of performance for new sources, paragraph 435.55, should be changed to reflect the fact that a beneficial use for produced water cannot be demonstrated prior to discharge. Thus, another criteria for establishing beneficial use for new sources must be used. We feel that language which allows the permitting authority to "reasonably determine that a potential for beneficial use exists" would provide the necessary flexibility in applying the beneficial use category to new sources.


Another change which we would like to see incorporated into the final regulations, would be an annual average Oil and Grease limitation for the beneficial use category as well as a maximum value. The inclusion of this average would more accurately represent the level of performance that is required for the industry. The average should be based on monthly sampling so that a sample population of 12 points is used in the statistical determination of the annual average limitation.

Another area of discussion at the meeting was the validity of the data base used in the determination of the 45 mg/l Oil and Grease limitation in the interim final regulations. It was recognized that all of the data provided by the contractor was acquired from the State of Wyoming. Some of the data utilized in the original analysis was obtained from self-monitoring reports for which there is no information as to the methods of sampling, preservation, or analysis. It was agreed that the final limitation should be based on the data which was collected and analyzed by the State of Wyoming. The Wyoming data is included in the attachment.

The data has been organized into three groups. Group I consists of all of the Wyoming data, 128 points total. Group II excludes the individual samples for which there is documented observation of equipment malfunction or upset. This group consists of 113 samples. Group III contains the samples which we feel represent well-operated systems; excluding malfunctions, samples that were taken when skim ponds were not properly maintained, and samples for which no field notes were recorded. Group III consists of 75 samples. We would like to see all three groups analyzed, utilizing the method that was applied to the original data.

It is our feeling that Group III most accurately represents the performance capabilities of the exemplary operations and should be used as the basis for the final limitations. Group II, excluding only documented instances of malfunction, would provide limitations which would represent the maximum acceptable values for the industry, as a whole. Thus, we urge the use of Group III for the final numbers, but in no case would limitations less restrictive than provided by Group II be acceptable.

I feel the requested changes in the interim regulations would result in final guidelines for the Beneficial Use Category which would more accurately represent the BPCTCA for this industry as well as provide greater protection for the surface waters involved. I, therefore, urge their prompt adoption. I also request that we be provided with a draft of the final regulations prior to sign-off by the Agency.

Original Signed  
 Irwin L. Dickstein

Irwin L. Dickstein

Attachment  
 Wyoming Oil Treater Survey in 3 Parts

cc: John Cunningham w/att. (WH-548)

bc: John Wagner w/att.  
 Wyoming DEQ

Rob Walline w/att. ✓

## ATTACHMENT 1

GROUP I - All of the data points collected and analyzed by the  
State of Wyoming

<u>WELL</u>	<u>SAMPLE NO.</u>	<u>DATE</u>	<u>OIL AND GREASE, MG/L</u>
MARATHON			
Oregon Basin	1	3/13/75	1.45
"	2	7/23/75	2.64
"	3	8/21/75	3.58
"	4	9/30/75	4.5
"	5	3/10/76	4.6
"	6	5/22/75	5.0
"	7	9/26/75	5.66
"	8	3/24/75	6.1
"	9	4/28/75	6.48
"	10	7/7/75	7.0
"	11	6/5/75	7.53
"	12	2/15/75	2.2
"	13	1/27/76	6.0
"	14	7/18/75	6.6
"	15	3/8/75	7.4
"	16	10/17/75	13.65
"	17	1/26/76	9.91
"	18	5/17/76	10.6
"	19	5/12/76	27.63
"	20	4/5/76	10.43
"	21	6/9/76	6.72
"	22	12/22/75	5.54
CHEVRON			
Quealy Dome	23	2/15/75	4.2
"	24	5/9/75	7.4
"	25	4/17/75	7.9
"	26	2/11/75	7.9
"	27	2/11/75	10.0
"	28	2/19/76	10.4
"	29	6/24/76	0.2
"	30	8/6/75	1.4
"	31	3/24/75	1.0
"	32	3/7/75	3.1
"	33	2/23/75	5.8
"	34	1/30/76	83.1
UNION			
Forte 4 & 5	35	1/5/76	3.02
"	36	6/19/75	2.88
"	37	2/23/75	2.24
"	38	7/10/75	2.24
"	39	3/27/76	2.21

## ATTACHMENT 1

GROUP I - All of the data points collected and analyzed by the  
State of Wyoming (Continued)

<u>WELL</u>	<u>SAMPLE NO.</u>	<u>DATE</u>	<u>OIL AND GREASE, MG/L</u>
UNION			
Forte 4 & 5			
(Continued)	40	6/11/75	1.56
"	41	6/11/76	1.55
"	42	4/23/76	1.25
"	43	5/18/76	0.95
"	44	9/18/75	1.27
UNION			
Derby Dome	45	5/18/75	10.56
"	46	2/23/76	18.28
"	47	7/10/75	18.29
"	48	9/18/75	9.42
"	49	6/11/75	6.03
"	50	6/19/75	5.70
"	51	3/26/76	4.9
"	52	1/5/76	4.43
"	53	6/11/76	3.96
"	54	4/23/76	2.05
UNION			
Dallas Dome	55	9/18/75	1.27
"	56	4/23/76	3.67
"	57	5/18/76	5.12
"	58	6/11/76	5.99
"	59	9/18/75	7.52
"	60	2/23/76	8.36
"	61	6/11/75	8.15
"	62	6/19/75	9.56
"	63	1/5/76	22.66
"	64	7/10/75	7.34
WEBSTER			
Lake Creek Field	65	5/14/76	16.3
"	66	3/1/76	16.68
"	67	8/18/75	17.7
"	68	12/22/75	19.75
"	69	9/11/75	5.58
"	70	6/5/75	16.51
"	71	1/14/76	25.8
"	72	6/9/76	5.74
"	73	4/5/76	4.85
"	74	7/7/75	3.75



GROUP I - All of the data points collected and analyzed by the  
State of Wyoming (Continued)

<u>WELL</u>	<u>SAMPLE NO.</u>	<u>DATE</u>	<u>OIL AND GREASE, MG/L</u>
WEBSTER			
Lake Creek Field			
(Continued)	75	10/13/75	4.81
"	76	1/26/76	5.12
"	77	11/17/75	6.39
"	78	10/15/75	8.5
"	79	7/18/75	8.7
"	80	5/12/76	10.79
AMOCO			
Lander Field	81	6/11/75	1.77
"	82	5/23/75	8.2
AMOCO			
North Fork Field	83	3/21/75	2.1
"	84	11/21/75	2.3
"	85	2/14/75	3.8
"	86	4/2/75	6.4
"	87	5/8/75	4.6
"	88	8/6/75	1.0
"	89	7/16/76	6.2
"	90	4/8/75	6.7
"	91	7/11/75	2.1
"	92	3/6/75	10.4
AMOCO			
Salt Creek Wemco	93	2/13/75	9.2
"	94	11/21/75	10.1
"	95	3/13/75	13.2
"	96	8/5/75	6.8
"	97	5/8/75	11.5
"	98	7/16/76	22.2
"	99	3/21/75	16.6
"	100	3/6/75	11.4
"	101	4/2/75	6.8
"	102	1/20/76	10.8
"	103	7/11/75	13.8
"	104	4/8/75	9.0

GROUP I - All of the data points collected and analyzed by the  
State of Wyoming (Continued)

<u>WELL</u>	<u>SAMPLE NO.</u>	<u>DATE</u>	<u>OIL AND GREASE, MG/L</u>
ARCO			
Hamilton Dome	105	4/28/75	7.35
"	106	7/18/75	3.6
"	107	1/15/76	9.0
"	108	7/7/75	9.39
"	109	5/12/76	4.91
"	110	6/9/76	1.23
"	111	6/5/75	7.57
"	112	4/5/76	4.38
"	113	7/23/75	3.71
"	114	5/17/76	3.7
"	115	3/13/75	11.7
"	116	9/11/75	7.74
"	117	3/31/75	9.5
"	118	8/18/75	7.14
"	119	5/22/75	19.0
"	120	11/17/75	12.68
"	121	2/14/75	11.6
"	122	3/7/75	26.4
"	123	12/22/75	25.21
"	124	10/14/75	19.8
"	125	10/13/75	21.33
"	126	1/26/76	11.62
"	127	4/25/75	7.6
"	128	3/24/75	12.27

## ATTACHMENT II

## GROUP II - Data Excluding Documented System Malfunctions or Upsets

(Rejected Samples Contain Reasons for Rejection Rather than Sample Value)

SAMPLE NO.	OIL & GREASE, MG/L OR MALFUNCTION CAUSE	SAMPLE NO.	OIL & GREASE, MG/L OR MALFUNCTION CAUSE
1	1.45	41	1.55
2	2.64	42	1.25
3	3.58	43	0.95
4	4.5	44	1.27
5	4.6	45	10.56
6	5.0	46	Treater Upset
7	5.66	47	Pump Malfunction
8	6.1	48	9.42
9	6.48	49	6.03
10	7.0	50	5.70
11	7.53	51	4.9
12	2.2	52	4.43
13	Emulsion Chemical Changeover	53	3.96
14	6.6	54	2.05
15	7.4	55	1.27
16	13.65	56	3.67
17	Chemical Pump Breakdown	57	5.12
18	10.6	58	5.99
19	27.63	59	7.52
20	10.43	60	8.36
21	6.72	61	8.15
22	5.54	62	Emulsion Chemical Changeover
23	4.2	63	Skimmer Froze
24	7.4	64	7.34
25	7.9	65	Oil Spill at Location
26	7.9	66	16.68
27	10.0	67	17.7
28	10.4	68	19.75
29	0.2	69	5.58
30	1.4	70	Siphon Pipe Malfunction
31	1.0	71	25.8
32	3.1	72	5.74
33	5.8	73	4.85
34	Pump Breakdown	74	3.75
35	3.02	75	4.81
36	2.88	76	5.12
37	2.24	77	6.39
38	2.24	78	8.5
39	2.21	79	8.7
40	1.56	80	10.79

## GROUP II - Data Excluding Documented System Malfunctions or Upsets (Continued)

(Rejected Samples Contain Reasons for Rejection Rather than Sample Value)

SAMPLE NO.	OIL & GREASE, MG/L OR MALFUNCTION CAUSE	SAMPLE NO.	OIL & GREASE, MG/L OR MALFUNCTION CAUSE
81	1.77	105	7.35
82	8.2	106	3.6
83	2.1	107	9.0
84	2.3	108	9.39
85	3.8	109	4.91
86	6.4	110	1.23
87	4.6	111	7.57
88	1.0	112	4.38
89	6.2	113	3.71
90	6.7	114	3.7
91	2.1	115	Cleaning Skimming Booms
92	10.4	116	7.74
93	9.2	117	9.5
94	10.1	118	7.14
95	13.2	119	19.0
96	6.8	120	12.68
97	11.5	121	Pipeline Broken
98	Treater Upset	122	26.4
99	16.6	123	Chemical Problems
100	11.4	124	Treater Upset
101	6.8	125	21.33
102	10.8	126	11.62
103	13.8	127	7.6
104	9.0	128	Cleaned Ponds with Backhoe

TOTAL NUMBER OF DATA POINTS IN GROUP II = 113.



## ATTACHMENT III

GROUP III - Data which Wyoming Considers to Represent Well-Operated Systems. This Excludes Malfunctions, Samples Taken when Final Skim ponds not Properly Maintained (Visible Oil on Surface), and Samples with No Field Notes.

(Rejected Samples Contain Reasons for Rejection Rather than Sample Value) 1/

SAMPLE NO.	OIL & GREASE, MG/L	SAMPLE NO.	OIL & GREASE, MG/L
1	1.45	41	1.55
2	2.64	42	1.25
3	3.58	43	0.95
4	4.5	44	1.27
5	4.6	48	9.42
6	5.0	49	6.03
7	5.66	50	5.70
8	6.1	51	4.9
9	6.48	52	4.43
10	7.0	53	3.96
11	7.53	54	2.05
19	No Notes	55	1.27
20	No Notes	56	3.67
21	No Notes	57	5.12
22	No Notes	58	5.99
23	4.2	59	7.52
24	7.4	60	8.36
25	7.9	61	8.15
26	7.9	71	25.8
27	10.0	72	5.74
28	10.4	73	4.85
29	0.2	74	3.75
30	1.4	75	4.81
35	3.02	76	5.12
36	2.83	77	6.39
37	2.24	78	8.5
38	2.24	79	8.7
39	2.21	80	No Notes
40	1.56	81	1.77

GROUP III - Data which Wyoming Considers to Represent Well-Operated Systems. This Excludes Malfunctions, Samples Taken when Final Skim ponds not Properly Maintained (Visible Oil on Surface), and Samples with No Field Notes. (Continued)

(Rejected Samples Contain Reasons for Rejection Rather than Sample Value) 1/

SAMPLE NO.	OIL & GREASE, MG/L	SAMPLE NO.	OIL & GREASE, MG/L
82	8.2	103	No Notes
83	2.1	104	No Notes
84	2.3	105	7.35
85	3.8	106	3.6
86	6.4	107	9.0
87	4.6	108	9.39
88	1.0	109	4.91
89	6.2	110	1.23
90	No Notes	111	7.57
91	No Notes	112	4.38
93	9.2	113	3.71
94	10.1	114	3.7
95	13.2	126	No Notes
96	6.8	127	No Notes
102	No Notes		

TOTAL NUMBER OF DATA POINTS IN GROUP III = 75

1/ Sample numbers 12, 14, 15, 16, 18, 31, 32, 33, 45, 64, 66, 67, 68, 69, 92, 97, 99, 100, 101, 116, 117, 118, 119, 120, 122, and 125 were rejected because of visible oil on final pond.